

Amendments to the Drawings

Enclosed are replacement drawing sheets for Figures 1 and 2.

REMARKS

Due to the numerous grammatical and idiomatic errors contained in the originally filed abstract and specification, Applicant is enclosing herewith a substitute abstract and specification including "clean" and "marked-up" copies. The abstract has been amended to correspond to the form required by the Examiner. The undersigned hereby certifies, to the best of his knowledge and belief, that the enclosed substitute abstract and specification do not contain any "new matter".

As requested by the Examiner, Applicants are enclosing herewith a replacement Figure 2 in which the Japanese characters have been removed therefrom and the spelling of "pump" has been corrected. No new matter has been added. Also enclosed herewith is a corrected Figure 1 in which the spelling of "pump" has been corrected.

In order to expedite the prosecution of the present application, Claims 1 and 8-14 have been canceled and replaced by newly presented Claim 15 which more particularly points out and distinctly claims the subject matter which Applicants regard as the invention and responds to the Examiner's rejection of the claims under 35 USC 112, first and second paragraphs. No new matter has been added.

The presently claimed invention is directed to a fine particle treatment system which comprises a storage tank for storing a solution having fine particles contained therein, the storage tank comprising a solution inlet and a solution outlet, a cyclone separator for separating the fine particles from the solution comprising a fluid inlet for accepting the fluid having fine particles from the storage tank solution outlet, a body portion for separating the particles from the solution by centrifugal force, a fluid outlet for discharging the solution from the cyclone separator and a particle outlet for discharging the separated particles from the cyclone separator, fluid circulation means for introducing the solution having fine particles from the storage tank solution

outlet into the cyclone separator fluid inlet and bringing the cyclone separator fluid outlet into fluid communication with the storage tank inlet and a particle trap box for receiving the separated particles discharged from the cyclone separator particle outlet through a communication hole and attached thereto. The particle trap comprises an electrode rod disposed at the center and a second electrode for applying a potential therebetween and remove impurity ions by electrophoresis.

The present invention provides a fine particle separation treatment system having a simple structure and which is capable of obtaining high purity fine particles in a solution with a low processing cost. The present invention provides a particle trap box disposed at the discharge of a cyclone separator and an electrode rod and counter-electrode are provided in the particle trap box to aid in the separation of the fine particles and to remove impurity ions adhered thereon. It is respectfully submitted that the prior art cited by the Examiner does not disclose the presently claimed invention.

The Couture et al reference discloses a cyclone or hydroclone used in the separation of fluids and particles. The separation device comprises an electrostatic charged generator, a direct current power source, a magnet or an electromagnet for augmenting the centrifugal separation forces generated by the cyclone or hydroclone and a physical vibration generator or a sonic wave generator or both. The Examiner states that this reference discloses a hydroclone with electrodes disposed in a particle trapping area of the hydroclone and cites Figures 6, 13 and 14. However, Applicants respectfully submit that the currently claimed invention clearly is structurally distinguishable from Couture et al.

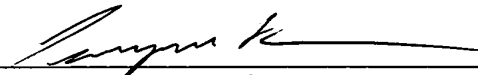
The currently presented claims require a particle trap box for receiving the separated particles discharged from the cyclone separator outlet and that an electrode rod be disposed

at the center thereof. In contrast thereto, Couture et al discloses the electrode being provided in the hydroclone or cyclone per se and not in a particle box attached to the discharge thereof. In fact, nothing in this reference would suggest such a construction. Therefore, it is respectfully submitted that the presently claimed invention clearly is patentably distinguishable over this reference.

Claim 17 is even further distinguished from the Couture et al reference in that it requires that the cyclone separator be made of either an insulating material or a conductive metal. The Couture et al reference requires that when an electrode is used, the body of the cyclone be made of insulating and conductive materials. The present invention requires that either an insulating or a conducting metal material be used in the construction of the cyclone but not both. Support for this amendment can be found in specification page 12, lines 3-5. Therefore, Claim 17 is even further patentably distinguishable over the prior art cited by the Examiner.

Reconsideration of the present application and the passing of it to issue is respectfully solicited.

Respectfully submitted,



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Encl: Replacement Abstract
Clean Substitute Specification
Marked-Up Substitute Specification
Replacement Drawing Sheets for Figures 1 and 2
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